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- Sand-clay mixtures for road surfacing. 1484.

BOES, FRANK C.

- Depreciation of public utility properties. 807.

BONZANO, ADOLPHUS.

- Memoir of. 1845.

BOORMAN, T. HUGH.

- Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1177.

BOWEN, S. W.

- Design of concrete bridges. 709.

BREWER, BERTRAM.

- Road construction and maintenance: Design of highway systems. 162.

BRINKLEY, M. H.

- Physical valuation of railroads. 244.

BROOKE, MARK.

- Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1136.

BROWN, W. N.

- Topographical surveys. 1035.

BUEL, A. W.

- Cinder concrete floors. 1802.
- Design of concrete bridges. 730.
- Reinforced concrete flat slab floors. 1719.
- Reinforced concrete reservoir. 1069.

BUERGER, CHARLES B.

- Reinforced concrete reservoir. 1067.

BURNS, CLINTON S.

- Depreciation of public utility properties. 838.

CAIN, WILLIAM.

- "Stresses in Wedge-Shaped Reinforced Concrete Beams." 745.

CARPENTER, A. W.

- Painting structural steel. 967.

- CARTER, C. E.**
Road construction and maintenance: Design of highway systems. 168.
- CHANDLER, E. F.**
Flood flows. 624.
- CHILDS, JAMES EDMUND.**
Memoir of. 1849.
- CHURCHILL, CHARLES S.**
Physical valuation of railroads. 311.
- CILLEY, MORGAN.**
Philosophy of engineering. 59.
- CLAFLIN, W. B.**
Cinder concrete floors. 1805.
- CLAYTON, HENRY HELM.**
Memoir of. 1924.
- CLIFFORD, R. G.**
Rainfall and run-off. 366.
- CONNELL, WILLIAM H.**
Road construction and maintenance: Cost records and reports. 148.
Road construction and maintenance: Engineering organizations for highway work. 1078.
- COOMBS, R. D.**
Painting structural steel. 975.
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- CORNER, CHARLES.**
Physical valuation of railroads. 334.
- CORNISH, L. D.**
Pier construction in New York Harbor. 545.
- CORY, H. T.**
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Storage for impounding reservoirs. 1649.
- COTTON, JOSEPH POTTER.**
Memoir of. 1851.
- COUCHOT, GEORGE JOHN.**
Memoir of. 1911.
- CREHORE, WILLIAM W.**
Physical valuation of railroads. 290.
Reinforced concrete flat slab floors. 1721.
- CROSBY, W. W.**
Road construction and maintenance: Cost records and reports. 132.
Road construction and maintenance: Engineering organizations for highway work. 1106.
Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1133.

CUSHMAN, ALLERTON S.

Painting structural steel. 958.

DANFORTH, FREDERIC.

Memoir of. 1853.

DAVIS, CHANDLER.

Pier construction in New York Harbor. 546.

DAVIS, PHILIP CHAPIN.

Memoir of. 1912.

DEAN, A. W.

Road construction and maintenance: Engineering organizations for highway work. 1095.

DE LA TORRE, ALBERTO.

Memoir of. 1913.

DIAMANT, ARTHUR H.

Cinder concrete floors. 1800.

DOYEN, G. E.

Shear tests on joints in T-beam stems. 1530.

DROWNE, H. B.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 178.

DURHAM, HENRY W.

Road construction and maintenance: Cost records and reports. 150.

Road construction and maintenance: Engineering organizations for highway work. 1096.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1151.

EATON, J. SHIRLEY.

Physical valuation of railroads. 238.

ECKLES, H. E.

Steel stresses in flat slabs. 1392.

EDDY, H. T.

Reinforced concrete flat slab floors. 1705.

"Steel Stresses in Flat Slabs." 1338.

FARRINGTON, WILLIAM R.

Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1155.

FERRIS, JAMES JOSEPH.

Memoir of. 1855.

FINCH, J. K.

Rainfall and run-off. 376.

Reinforced concrete reservoir. 1061.

FLAD, EDWARD.

"Reinforced Concrete Reservoir and Coagulation Plant at St. Louis, Mo." 1052.

FLOY, HENRY.

Depreciation of public utility properties. 835.

FOLLETT, W. W.

"Topographical Surveys Made by the American Section of the International Boundary Commission United States and Mexico." 989.

FORBES, MURRAY.

Memoir of. 1915.

FOUQUET, JOHN DOUGLAS.

Memoir of. 1857.

FOX, CHARLES KIRBY.

Philosophy of engineering. 54.

FULLER, WESTON E.

"Flood Flows." 564.

FULWEILER, W. H.

Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1166.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 196.

GANDOLFO, J. H.

Depreciation of public utility properties. 863.

Physical valuation of railroads. 303.

GARDNER, H. A.

Painting structural steel. 964.

GAYNOR, JAMES L.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 180.

GAZLAY, WEBSTER.

Memoir of. 1861.

GILLETTE, HALBERT P.

Physical valuation of railroads. 259.

GODFREY, EDWARD.

Reinforced concrete flat slab floors. 1699.

Steel stresses in flat slabs. 1389.

GODWIN, W. S.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 182.

GOLDSMITH, WILLIAM.

Road construction and maintenance: Engineering organizations for highway work. 1112.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1148.

GOODRICH, E. P.

Storage for impounding reservoirs. 1645.

GOODSELL, D. B.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1150.

GREEN, F. W.

Physical valuation of railroads. 328.

GREEN, P. E.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1123.

GREENE, A. E.

Reinforced concrete flat slab floors. 1728.

GREGORY, C. E.

Design of concrete bridges. 711.

GREINER, J. E.

"Coal Piers on the Atlantic Seaboard." 454.

"Progress Report of the Special Committee on Concrete and Reinforced Concrete." 385.

GRIFFIN, J. ALDEN.

"A Rational Formula for Asphalt Street Surfaces." 64.

GUTMAN, D.

Shear tests on joints in T-beam stems. 1525.

HAGUE, CHARLES ARTHUR.

Memoir of. 1863.

HAMMATT, W. C.

"California Practice in Highway Construction." 1760.

HAND, F. C.

Physical valuation of railroads. 317.

HARRIS, A. L.

"The Diversion of Irrigating Water from Arizona Streams." 932.

HARRIS, F. R.

Pier construction in New York Harbor. 535.

HARTE, CHARLES RUFUS.

Depreciation of public utility properties. 868.

Physical valuation of railroads. 323.

HATT, W. K.

"Progress Report of the Special Committee on Concrete and Reinforced Concrete." 385.

Saturation and strength of concrete. 448.

Steel stresses in flat slabs. 1411.

HAUGH, JAMES CHARLES.

Memoir of. 1864.

HAUPT, LEWIS M.

Philosophy of engineering. 53.

HAWGOOD, H.

Economic conduit location. 784.

HAYS, JOHN WILLIS.

Memoir of. 1865.

HAZEN, ALLEN.

Depreciation of public utility properties. 809.

Flood flows. 626.

"Storage to be Provided in Impounding Reservoirs for Municipal Water Supply." 1539.

Weir measurement of stream flow. 1287.

HEISER, ALFRED B.

Shear tests on joints in T-beam stems. 1526.

HICKOK, C. E.

"A Study of Economic Conduit Location." 778.

HILDENBRAND, WILHELM.

Memoir of. 1867.

HIMMELWRIGHT, A. L. A.

Cinder concrete floors. 1813.

HINCKLEY, H. V.

Flood flows. 622.

HINDS, FRANKLIN ALLEN.

Memoir of. 1870.

HOAR, ALLEN.

California highway construction. 1769.

HOFF, OLAF.

"Progress Report of the Special Committee on Concrete and Reinforced Concrete." 385.

HOLLOWAY, ROGER TIFFT.

Memoir of. 1917.

HORTON, ROBERT E.

Flood flows. 663.

Rainfall and run-off. 369.

Weir measurement of stream flow. 1298.

HOWARD, C. P.

Physical valuation of railroads. 240.

HOWARD, J. W.

Road construction and maintenance: Design of highway systems. 168.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 202.

HUBBARD, PRÉVOST.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 202.

HUMPHREY, RICHARD L.

"Progress Report of the Special Committee on Concrete and Reinforced Concrete." 385.

HUMPHREYS, ALEXANDER C.

Depreciation of public utility properties. 827.

Physical valuation of railroads. 301.

HUNICKE, WILLIAM AUGUST.

Memoir of. 1871.

HURLBUT, CHARLES C.

Cinder concrete floors. 1803.

INGERSOLL, COLIN M.

Physical valuation of railroads. 314.

JACKSON, WILLIAM B.

Depreciation of public utility properties. 822.

JAMES, E. W.

Road construction and maintenance: Engineering organizations for highway work. 1085.

Sand-clay mixtures for road surfacing. 1482.

JANNI, A. C.

Design of concrete bridges. 714.

Stresses in reinforced concrete beams. 763.

JANVRIN, NED HERBERT.

Memoir of. 1872.

JARVIS, CLARENCE S.

Weir measurement of stream flow. 1303.

JOHNSON, LEWIS J.

"Shearing Strength of Construction Joints in Stems of Reinforced Concrete T-Beams, as Shown by Tests." 1499.

JOHNSON, THOMAS HUMRICKHOUSE.

Memoir of. 1876.

JOHNSTON, CLARENCE T.

Weir measurement of stream flow. 1291.

JOHNSTON, J. A.

Road construction and maintenance: Cement-concrete pavements. 118.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 198.

JUSTIN, JOEL D.

"Derivation of Run-Off from Rainfall Data." 346.

KERSHAW, W. H.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 185.

KIERSTED, W.

Depreciation of public utility properties. 872.

KING, H. W.

Weir measurement of stream flow. 1296.

KINNEY, WILLIAM M.

Road construction and maintenance: Cement-concrete pavements. 126.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1147.

KNOWLES, MORRIS.

Flood flows. 632.

KNOX, STUART K.

Depreciation of public utility properties. 846.

KOCH, JOHN C.

"An Investigation of Sand-Clay Mixtures for Road Surfacing." 1454.

KUICHLING, E.

Flood flows. 643.

LAKE, ORLOFF.

Memoir of. 1925.

LANDRETH, WILLIAM B.

Topographical surveys. 1027.

LAVIS, F.

Depreciation of public utility properties. 823.

Physical valuation of railroads. 281.

LE CONTE, L. J.

Pier construction in New York Harbor. 546.

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Storage for impounding reservoirs. 1645.

LEE, CHARLES H.

Storage of flood-waters for irrigation. 91.

LEE, FRANCIS VALENTINE TOLDERVY.

Memoir of. 1880.

LEE, GEORGE WILLIAM.

Memoir of. 1919.

LESLEY, R. W.

"Progress Report of the Special Committee on Concrete and Reinforced Concrete." 385.

LEWIS, NELSON P.

Road construction and maintenance: Cost records and reports. 129.

Road construction and maintenance: Design of highway systems. 163.

Road construction and maintenance: Engineering organizations for highway work. 1110.

LINK, J. WILLIAM.

Rainfall and run-off. 375.

LOWINSON, OSCAR.

Cinder concrete floors. 1810.

LYMAN, RICHARD R.

"Measurement of the Flow of Streams by Approved Forms of Weirs with New Formulas and Diagrams: Details and Summaries of the Results of Experiments by Francis, Bazin, Fteley and Stearns, and at the Hydraulic Laboratories of Cornell University and the University of Utah." 1189.

MCCORMICK, R. S.

Physical valuation of railroads. 330.

MCDONALD, HUNTER.

"Address at the Annual Convention, in Baltimore, Md., June 2d, 1914." 1737.

MARBURG, EDGAR.

Cinder concrete floors. 1818.

MARKWART, A. H.

Philosophy of engineering. 55.

MARSH, F. B.

Storage for impounding reservoirs. 1644.

MASURY, A. F.

Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1181.

MAXWELL, W. D.

Design of concrete bridges. 731.

MEEKER, ROBERT A.

Road construction and maintenance: Engineering organizations for highway work. 1103.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1143.

MELVIN, DAVID NEILSON.

Memoir of. 1882.

MENSCH, L. J.

Design of concrete bridges. 726.

Reinforced concrete flat slab floors. 1682.

Shear tests on joints in T-beam stems. 1523.

Steel stresses in flat slabs. 1400.

Stresses in reinforced concrete beams. 767.

MERRICK, HORACE GUY.

Memoir of. 1920.

METCALF, LEONARD.

Depreciation of public utility properties. 819.

MILLS, HIRAM F.

Storage for impounding reservoirs. 1641.

MOLITOR, F. A.

Physical valuation of railroads. 252.

MORGAN, ARTHUR E.

Flood flows. 618.

MORITZ, E. A.

Saturation and strength of concrete. 446.

Weir measurement of stream flow. 1282.

MORSE, BENJAMIN FRANKLIN.

Memoir of. 1884.

NELSON, GEORGE ALFRED.

Memoir of. 1886.

NEWTON, JAMES DYNAN.

Memoir of. 1921.

NICHOLS, JOHN R.

"Shearing Strength of Construction Joints in Stems of Reinforced Concrete T-Beams, as Shown by Tests." 1499.

"Statistical Limitations Upon the Steel Requirement in Reinforced Concrete Flat Slab Floors." 1670.

NICOLAYSEN, ALBIN G.

Physical valuation of railroads. 249.

NISHKIAN, L. H.

Stresses in reinforced concrete beams. 768.

NORCROSS, P. H.

Physical valuation of railroads. 322.

OWEN, JAMES.

Road construction and maintenance: Cement-concrete pavements. 127.

Road construction and maintenance: Design of highway systems. 164.

Sand-clay mixtures for road surfacing. 1489.

PARKER, HAROLD.

Road construction and maintenance: Cement-concrete pavements. 126.

PARSONS, MAURICE G.

- Physical valuation of railroads. 225.
 "The Philosophy of Engineering." 38.

PETERSON, PETER ALEXANDER.

Memoir of. 1888.

PILLSBURY, G. B.

Flood flows. 670.

PONTZEN, ERNEST.

Memoir of. 1829.

POORE, H. C.

Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 180.

POST, GEORGE BROWNE.

Memoir of. 1891.

POTTER, ALEXANDER.

Reinforced concrete reservoir. 1063.

PULLAR, H. B.

Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1161.

PULLIGNY, JEAN DE.

Road construction and maintenance: Design of highway systems. 152.

QUIMBY, HENRY H.

Design of concrete bridges. 711.
 Saturation and strength of concrete. 451.

RADENHURST, WILLIAM NAPIER.

Memoir of. 1893.

RAFF, HENRY G.

Shear tests on joints in T-beam stems. 1527.

RAYMOND, CHARLES WALKER.

Memoir of. 1894.

RICHARDSON, CLIFFORD.

Saturation and strength of concrete. 448.

RICHMOND, HENRY A.

Memoir of. 1926.

RICKER, GEORGE A.

Road construction and maintenance: Engineering organizations for highway work. 1115.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1150.

RIEGNER, WALLACE BERKLEY.

Memoir of. 1902.

- RIGHTS, LEWIS D.**
Painting structural steel. 977.
- ROBINSON, R. B.**
Weir measurement of stream flow. 1294.
- SABIN, A. H.**
"Painting Structural Steel: The Present Situation." 952.
- SARGENT, PAUL D.**
Road construction and maintenance: Engineering organizations for highway work. 1104.
- SAURBREY, ALEXIS.**
Shear tests on joints in T-beam stems. 1532.
- SCHAEFFER, AMOS.**
Road construction and maintenance: Design of highway systems. 1652.
- SCHOBINGER, GEORGE.**
"Colorado River Siphon." 1.
- SEELYE, ELWYN E.**
Shear tests on joints in T-beam stems. 1526.
- SHARPLES, PHILIP P.**
Road construction and maintenance: Cement-concrete pavements. 1232.
Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1178.
Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 201.
- SHERTZER, TYRRELL B.**
Pier construction in New York Harbor. 543.
- SIBLEY, L. P.**
Road construction and maintenance: Cement-concrete pavements. 124.
- SKINNER, F. W.**
Cinder concrete floors. 1809.
- SMITH, FRANCIS P.**
Road construction and maintenance: Equipment for the construction of bituminous surfaces and bituminous pavements. 171.
- SMITH, G. E. P.**
Weir measurement of stream flow. 1300.
- SMITH, LEONARD S.**
Topographical surveys. 1040.
- SMITH, WALTER M., Jr.**
"Concrete Bridges: Some Important Features in Their Design." 695.
- SMITH, WALTER M., Sr.**
"Concrete Bridges: Some Important Features in Their Design." 695.
- SMITH, WILSON FITCH.**
Design of concrete bridges. 710.

- SNOW, J. P.**
 Pier construction in New York Harbor. 540.
 Shear tests on joints in T-beam stems. 1525.
- SNYDER, BAIRD, Jr.**
 Memoir of. 1903.
- SPENCER, HERBERT.**
 Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1171.
- STANIFORD, CHARLES W.**
 "Modern Pier Construction in New York Harbor." 503.
- STEIN, M. F.**
 Economic conduit location. 785.
- STENGEL, C. H.**
 Pier construction in New York Harbor. 544.
- STEWART, SPENCER J.**
 Sand-clay mixtures for road surfacing. 1484.
- STONE, GEORGE B.**
 Depreciation of public utility properties. 880.
- STREHAN, GEORGE E.**
 Cinder concrete floors. 1812.
- STRONG, A. M.**
 "The Storage of Flood-Waters for Irrigation: A Study of the Supply Available from Southern California Streams." 67.
- STURDEVANT, JAMES H.**
 Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1169.
- SWENSSON, EMIL.**
 "Progress Report of the Special Committee on Concrete and Reinforced Concrete." 385.
- TAFT, HARRISON S.**
 Pier construction in New York Harbor. 525.
- TALBOT, A. N.**
 "Progress Report of the Special Committee on Concrete and Reinforced Concrete." 385.
- TAYLOR, STEVENSON.**
 Physical valuation of railroads. 317.
- TAYLOR, T. U.**
 Storage for impounding reservoirs. 1641.
- THOMES, E. H.**
 Road construction and maintenance: Cement-concrete pavements. 122.
 Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1128.

THOMPSON, SANFORD E.

- Road construction and maintenance: Cement-concrete pavements. 120.
Steel stresses in flat slabs. 1395.

THOMSON, T. KENNARD.

- Physical valuation of railroads. 1309.

TIGHE, JAMES L.

- Storage for impounding reservoirs. 1646.

TILLSON, GEORGE W.

- Road construction and maintenance: Cost records and reports. 147.
Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1139.

TOCH, MAXIMILIAN.

- Painting structural steel. 971.

TRAUTWINE, JOHN C., Jr.

- Road construction and maintenance: Engineering organizations for highway work. 1111.

TRIBUS, L. L.

- Road construction and maintenance: Cost records and reports. 132.

TURNER, C. A. P.

- Reinforced concrete flat slab floors. 1691.
Steel stresses in flat slabs. 1416.

TURNER, NATHANIEL.

- Memoir of. 1905.

ULRICH, J. C.

- "The Prewitt Reservoir Proposition." 96.

VAN ORNUM, J. L.

- "The Effect of Saturation on the Strength of Concrete." 438.

VENSANO, H. C.

- Depreciation of public utility properties. 814.

VLIEGENTHART, JOHANNES CORNELIS.

- Memoir of. 1923.

WAGNER, SAMUEL TOBIAS.

- Painting structural steel. 962.

WAGONER, LUTHER.

- "A Study of Fluid Resistance." 890.

WAITE, GUY B.

- "Cinder Concrete Floors." 1773.

WAITT, ARTHUR M.

- Physical valuation of railroads. 315.

WALKER, E. G.

- Pier construction in New York Harbor. 522.
Reinforced concrete flat slab floors. 1721.

WASHINGTON, WILLIAM DE H.

Road construction and maintenance: Engineering organizations for highway work. 1117.

Road construction and maintenance: Equipment and methods for maintaining bituminous surfaces and bituminous pavements. 1180.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1151.

WEGMANN, EDWARD.

Reinforced concrete reservoir. 1069.

WHEELER, WALTER S.

Saturation and strength of concrete. 448.

WHINERY, S.

Physical valuation of railroads. 268.

Road construction and maintenance: Cement-concrete pavements. 124.

Road construction and maintenance: Factors limiting the selection of materials and of methods in highway construction. 1130.

WHITE, Sir WILLIAM HENRY.

Memoir of. 1824.

WHITED, WILLIS.

Road construction and maintenance: Engineering organizations for highway work. 1074.

WHITNEY, F. O.

Road construction and maintenance: Design of highway systems. 169.

WIGGIN, THOMAS H.

Shear tests on joints in T-beam stems. 1530.

WILCOCK, FREDERICK.

Road construction and maintenance: Cost records and reports. 151.

WILGUS, WILLIAM J.

Depreciation of public utility properties. 804.

"Physical Valuation of Railroads." 203.

WILLIAMS, GARDNER S.

Weir measurement of stream flow. 1304.

WILLOUGHBY, J. E.

Depreciation of public utility properties. 804.

Physical valuation of railroads. 266.

WINSOR, L. M.

Weir measurement of stream flow. 1295.

WORCESTER, J. R.

Cinder concrete floors. 1801.

"Progress Report of the Special Committee on Concrete and Reinforced Concrete." 385.

Saturation and strength of concrete. 447.

ZOLLINGER, LUTHER REESE.

Memoir of. 1907.

